

REMARKS

Claims 1-42 are pending in the application.

Claims 1, 2, 4, 5, 7, 8, 10, 11, 13, 14, 16, 17, 25, 26, 28, 29, 31, 32, 34 and 35 are finally rejected under 35 USC 102 as being anticipated by *Romero et al.* The Examiner has stated that the features upon which the applicant relies as not being disclosed in *Romero et al.* (the heat pipe configuration, and the embossing) are not recited in the rejected claims.

Accordingly, the claims are herein amended to more clearly distinguish the present invention over.

The support for the amended claims is on page 20, lines 9-12 and 13-16, page 21, lines 3-10 and page 29, lines 7-12 of the original specification.

It should be noted again that the *Romero et al.* Structure is not configured as a heat pipe whereas to the present invention is configured as a heat pipe.

The heat conducting medium in *Romero et al.* Is not confined inside the cavity 57, but is forced into the cavity 57 from the exterior through a port 13, and forced out of the cavity through a different port 14 formed at the side wall of cavity 57.

Further, the fins in *Romero et al.*, which correspond to the protrusions in the present invention, are formed, sized, and arranged so that the heat conducting medium

does not counterflow to an area near port 13 or contraflow, and so that the medium is lead smoothly to port 14. This feature of the fins is realized even when they are formed inside the cavity 57.

However, none of Claims 1, 2, 4, 5, 7, 8, 10, 11, 13, 14, 16, 17, 25, 26, 28, 29, 31, 32, 34 and 35 have features that correspond to the ports 13 and 14 in the *Romero et al* heat dissipation apparatus. Moreover, the heat medium in the heat diffuser of the present invention is injected from the exterior into a region surrounded by the wall, the case of the electric component, and the plate-like structure, and is confined within the region.

The plurality of protrusions in the thermal diffuser of the present invention, as set forth in current Claims 1, 2, 4, 5, 7, 8, 10, 11, 13, 14, 16, 17, 25, 26, 28, 29, 31, 32, 34 and 35 form a channel consisting of web-like paths through which the heat medium evenly recirculates. This channel is formed near the heat injection path inside the region (the heat injection path is blocked when the heat medium is confined inside), according to how temperatures in the region are dispersed.

As a result of the structural differences as claimed in the pending claims, *Romero et al.* cannot gain enough capillary pressure so that recirculation of the heat medium can be promoted despite the direction of the gravitational pull. The *Romero et al.* heat dissipation apparatus also does not have as much physical or mechanical strength as the thermal diffuser of the present invention and cannot realize thermal coupling which is as close to the heat source as the thermal diffuser of the present invention is. This is

because the *Romero et al.* apparatus does not have the plurality of protrusions formed by embossing such as claimed in the current claims 1-3.

Claims 3, 6, 9, 12, 15, 18, 21, 24, 30, 33 and 36 are finally rejected under 35 USC 102 as being anticipated by *Snyder et al.* and Claims 37, 38 and 41 are rejected under 35 USC 102 as being anticipated by *DiGiacomo et al.*

Claims 39 and 42 are rejected under 35 USC 102 as being anticipated by *Snyder*.

The rejected claims have been amended to more clearly differentiate from the *Snyder et al.* and *DiGiacomo et al.*

The term “web” has been amended in to overcome the Examiner’s objection thereto.

Claims 19, 20, 22 and 23 are rejected under 35 USC 103 as being unpatentable over *Romero et al.* in view of *DiGiacomo et al.*

Claims 3 and 27 have also been rejected under 35 USC 103 as being unpatentable over *DiGiacomo et al.*

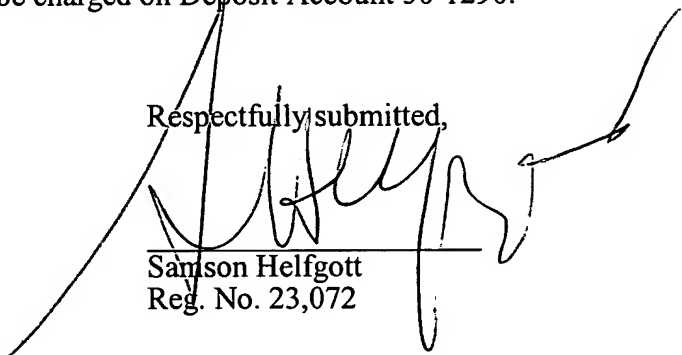
Claims 22 –24 depend on claims 1, 2 and 3, respectively and should be allowed due to their dependency on these claims which were amended to avoid the prior art.

Claims 37, 38, 39, 40 and 41-42 have been also amended to overcome the prior art rejection.

In view of amendments and remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further action.

Any fee due with this paper may be charged on Deposit Account 50-1290.

Respectfully submitted,



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